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| 10/823,898   | 04/14/2004  | Toshio Nakakuki      | 81784.0306                | 5673             |
| 26021 7590 04/10/2007<br>HOGAN & HARTSON L.L.P.<br>1999 AVENUE OF THE STARS<br>SUITE 1400<br>LOS ANGELES, CA 90067 |             |                      | EXAMINER<br>RICE, ELISA M |                  |
|  |             |                      | ART UNIT                  | PAPER NUMBER     |
|  |             |                      | 2609                      |                  |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/823,898

**Applicant(s)**

NAKAKUKI, TOSHIO

**Examiner**

Elisa M. Rice

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 5,6,10 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/14/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. "For making a determination" could be changed to positively identify what that determination is.

### ***Claim Objections***

1. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

Claim 5, 6, and 10 are objected to under 37 CFR 1.75(a), as failing to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

**Regarding claim 5**, it is objected to for lacking antecedent basis in claim 2 for "said first threshold" and for "said second threshold". Claim 3 recites a first threshold and second threshold. It is therefore assumed that claim 5 is meant to be dependent on claim 3 for examination purposes. Correction is required.

**Regarding claim 6**, it is unclear where the preamble ends and the method steps begin therefore rewriting the claim to positively claim the method steps. For example, replacing "for" with - - comprising the steps for - - would be suggested.

**Regarding claim 10**, it is objected to for lacking antecedent basis in claim 7 for "said first threshold" and for "said second threshold". Claim 8 recites a first threshold and second threshold. It is therefore assumed that claim 10 is meant to be dependent on claim 8 for examination purposes. Correction is required.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and

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the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

**Claim 11** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 10 defines a program product embodying functional descriptive material. Examples of acceptable language in computer-processing related claims include the following: computer readable medium encoded with a computer program, computer readable medium encoded with software, computer readable medium encoded with computer executable instructions, computer readable medium encoded with instructions capable of being executed by a computer. The definition of the "program product" defined in the claim should positively identify the "program product" to be consistent with any of the above examples in order to be commensurate with the interim guidelines.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1, 2, 3, 4, 6, 7, 8, 9, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamura et al (US 6,040,860).

**Regarding claim 1**, Tamura discloses an image processing device for acquiring image data to be processed ("comprises an imaging element for outputting an image signal", column 2, line 62), extracting a spectrum of a predetermined physical quantity in said image data ("FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107", column 4, line 28), making a determination as to whether or not said spectrum has a plurality of peaks ("This luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance range and one in the high luminance range. This makes it possible to deduce that the captured image contains a backlit subject.", column 8, line 65), and performing a process based on a result of the determination, wherein the process is a backlighting correction process(The image evaluation means 108 then sets the compensation rate of the gradation compensation characteristic used to compensate the input image based on the luminance histogram extracted by the feature quantity extraction circuit 107, column 9, line 2).

**Regarding claim 2**, Tamura discloses the image processing device according to claim 1, wherein said physical quantity is a signal varied in accordance with a change in an amount of light or a luminance ("FIG. 4 is a sample luminance histogram showing the

feature quantity extracted by the feature quantity extraction circuit 107”, column 4, line 28).

**Regarding claim 3**, Tamura discloses the image processing device according to claim 1, wherein the determination as to whether or not said spectrum has a plurality of peaks is made based on, with respect to said spectrum, an integral value of a range where said physical quantity is no greater than a first threshold (, and an integral value of a range where said physical quantity is no smaller than a second threshold which is greater than said first threshold (“FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107 in the present embodiment of the invention. Curve a in FIG. 4 is the luminance histogram where the low luminance pixel count of pixels with a luminance value less than or equal to threshold value 1 is level b, the middle luminance pixel count of pixels with a luminance value between threshold value 1 and threshold value 2 is level c, and the high luminance pixel count of pixels with a luminance value greater than or equal to threshold value 2 is level d.”, column 7, line 6; “This luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance range and one in the high luminance range. This makes it possible to deduce that the captured image contains a backlit subject.”, column 8, line 65).

**Regarding claim 4**, Tamura discloses the image processing device according to claim 3, wherein at least one of said first and second thresholds is set based on an average level of said physical quantity (“At the same time the center-weighted averaging circuit 105b calculates the average of the luminance signal Y in the middle of

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the screen, and then multiplies this average by a weight (for example, a multiplier of 2) to obtain the center-weighted average luminance of the image. The screen average and the center-weighted average luminance values are then added by the adder 105c, and this average sum signal is then normalized to the output level range of the AGC means 103 by the normalization circuit 105d, obtaining the integrated value that is then output to the AGC control circuit 106," column 8, line 11).

**Regarding claim 6,** Tamura discloses an image processing method for acquiring image data to be processed ("comprises an imaging element for outputting an image signal", column 2, line 62), extracting a spectrum of a predetermined physical quantity in said image data ("FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107", column 4, line 28), making a determination as to whether or not said spectrum has a plurality of peaks ("This luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance range and one in the high luminance range. This makes it possible to deduce that the captured image contains a backlit subject.", column 8, line 65), and performing a process based on a result of the determination, wherein the process is a backlighting correction process(The image evaluation means 108 then sets the compensation rate of the gradation compensation characteristic used to compensate the input image based on the luminance histogram extracted by the feature quantity extraction circuit 107, column 9, line 2).

**Regarding claim 7,** Tamura discloses the image processing method according to claim 6, wherein said physical quantity is a signal varied in accordance with a change



in an amount of light or a luminance ("FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107", column 4, line 28).

**Regarding claim 8**, Tamura discloses the image processing method according to claim 6, wherein the determination as to whether or not said spectrum has a plurality of peaks is made based on, with respect to said spectrum, an integral value of a range where said physical quantity is no greater than a first threshold (, and an integral value of a range where said physical quantity is no smaller than a second threshold which is greater than said first threshold ("FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107 in the present embodiment of the invention. Curve a in FIG. 4 is the luminance histogram where the low luminance pixel count of pixels with a luminance value less than or equal to threshold value 1 is level b, the middle luminance pixel count of pixels with a luminance value between threshold value 1 and threshold value 2 is level c, and the high luminance pixel count of pixels with a luminance value greater than or equal to threshold value 2 is level d.", column 7, line 6; "This luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance range and one in the high luminance range. This makes it possible to deduce that the captured image contains a backlit subject.", column 8, line 65)

**Regarding claim 9**, Tamura discloses the image processing method according to claim 8, wherein at least one of said first and second thresholds is set based on an average level of said physical quantity ("At the same time the center-weighted

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averaging circuit 105b calculates the average of the luminance signal Y in the middle of the screen, and then multiplies this average by a weight (for example, a multiplier of 2) to obtain the center-weighted average luminance of the image. The screen average and the center-weighted average luminance values are then added by the adder 105c, and this average sum signal is then normalized to the output level range of the AGC means 103 by the normalization circuit 105d, obtaining the integrated value that is then output to the AGC control circuit 106," column 8, line 11).

**Regarding claim 11,** Tamura discloses an image processing program product for causing a computer to acquire image data to be processed ("comprises an imaging element for outputting an image signal", column 2, line 62), extracting a spectrum of a predetermined physical quantity in said image data ("FIG. 4 is a sample luminance histogram showing the feature quantity extracted by the feature quantity extraction circuit 107", column 4, line 28), making a determination as to whether or not said spectrum has a plurality of peaks ("This luminance histogram (FIG. 4bcd) shows that there are two luminance peaks with one in the low luminance range and one in the high luminance range. This makes it possible to deduce that the captured image contains a backlit subject.", column 8, line 65), and performing a process based on a result of the determination, wherein the process is a backlighting correction process(The image evaluation means 108 then sets the compensation rate of the gradation compensation characteristic used to compensate the input image based on the luminance histogram extracted by the feature quantity extraction circuit 107, column 9, line 2).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura et. al. (US 6,040,860) further in view of Iguchi et. al (US 7006668 B2).

**Regarding claim 5**, Tamura does not disclose the image processing device according to claim 3, wherein said first threshold is smaller than the average level of said physical quantity, and said second threshold is greater than the average level of said physical quantity, and said spectrum is determined as having a plurality of peaks when satisfying at least two conditions out of: a first condition that an integral value of a range where said physical quantity is no greater than said first threshold is no smaller than a first percentage of an integral value of the entire range; a second condition that an integral value of a range where said physical quantity is no smaller than said second threshold is no smaller than a second percentage of the integral value of the entire range; and a third condition that a sum of the integral value of the range where said physical quantity is no greater than said first threshold and the integral value of the

range where said physical quantity is no smaller than said second threshold is no smaller than a third percentage of the integral value of the entire range.

Iguchi et al. does disclose the image processing device according to claim 2, said spectrum is determined as having a plurality of peaks when satisfying at least two conditions out of: a first condition that an integral value of a range where said physical quantity is no greater than said first threshold is no smaller than a first percentage of an integral value of the entire range ("For example, in case of the comparatively light image shown in FIG. 13, the ratio of the area indicated by oblique lines to the number of all the pixels is to be S.sub.low. In this example, since the ratio S.sub.low reaches 20%, the image is judged to be the light image by the HLP judgement and it is judged that the ratio S.sub.low is in the range 16 to 50.", Iguchi, column 16, line 46)

a second condition that an integral value of a range where said physical quantity is no smaller than said second threshold is no smaller than a second percentage of the integral value of the entire range ("For example, in case of the comparatively light image shown in FIG. 13, the ratio of the area indicated by oblique lines to the number of all the pixels is to be S.sub.low. In this example, since the ratio S.sub.low reaches 20%, the image is judged to be the light image by the HLP judgement and it is judged that the ratio S.sub.low is in the range 16 to 50.", Iguchi, column 16, line 52).

It would have been obvious to one of ordinary skill in the art to combine the invention of Tamura with ratio analyzing method of Iguchi because "based on the ratio of main subject areas to secondary subject areas, the microprocessor 16 then detects

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backlighting and strong normal lighting to control the image signal gain according to the backlighting-normal lighting ratio" as stated by Iguchi in column 2 and line 20.

Backlighting is recognized to exist in an image when multiple peaks are detected.

Although it is not directly stated that this is a peak detection method since it is well known in the art, multiple peaks are inherently being detected as a result of the ratio method described.

**Regarding claim 10**, Tamura does not disclose the image processing method according to claim 7, wherein said first threshold is smaller than the average level of said physical quantity, and said second threshold is greater than the average level of said physical quantity, and said spectrum is determined as having a plurality of peaks when satisfying at least two conditions out of: a first condition that an integral value of a range where said physical quantity is no greater than said first threshold is no smaller than a first percentage of an integral value of the entire range; a second condition that an integral value of a range where said physical quantity is no smaller than said second threshold is no smaller than a second percentage of the integral value of the entire range; and a third condition that a sum of the integral value of the range where said physical quantity is no greater than said first threshold and the integral value of the range where said physical quantity is no smaller than said second threshold is no smaller than a third percentage of the integral value of the entire range.

Iguchi et al. does disclose the image processing device according to claim 2, said spectrum is determined as having a plurality of peaks when satisfying at least two conditions out of: a first condition that an integral value of a range where said physical

quantity is no greater than said first threshold is no smaller than a first percentage of an integral value of the entire range ("For example, in case of the comparatively light image shown in FIG. 13, the ratio of the area indicated by oblique lines to the number of all the pixels is to be S.sub.low. In this example, since the ratio S.sub.low reaches 20%, the image is judged to be the light image by the HLP judgement and it is judged that the ratio S.sub.low is in the range 16 to 50.", Iguchi, column 16, line 46)

a second condition that an integral value of a range where said physical quantity is no smaller than said second threshold is no smaller than a second percentage of the integral value of the entire range ("For example, in case of the comparatively light image shown in FIG. 13, the ratio of the area indicated by oblique lines to the number of all the pixels is to be S.sub.low. In this example, since the ratio S.sub.low reaches 20%, the image is judged to be the light image by the HLP judgement and it is judged that the ratio S.sub.low is in the range 16 to 50.", Iguchi, column 16, line 52).

It would have been obvious to one of ordinary skill in the art to combine the invention of Tamura with ratio analyzing method of Iguchi because "based on the ratio of main subject areas to secondary subject areas, the microprocessor 16 then detects backlighting and strong normal lighting to control the image signal gain according to the backlighting-normal lighting ratio" as stated by Iguchi in column 2 and line 20.

Backlighting is recognized to exist in an image when multiple peaks are detected.


Although it is not directly stated that this is a peak detection method since it is well known in the art, multiple peaks are inherently being detected as a result of the ratio method described.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elisa M. Rice whose telephone number is (571)270-1580. The examiner can normally be reached on 8:00a.m.-5:30p.m. EST Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571)272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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